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ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/G 4/2  
19305AT GSRS MISSILES NUMBER 1026, 1036, 1034, ROUNDS NUMBER V---ETC(U)  
JUN 79

UNCLASSIFIED

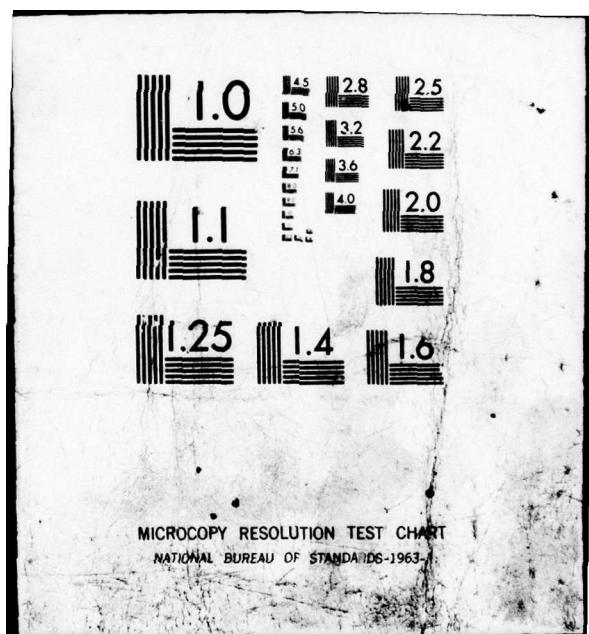
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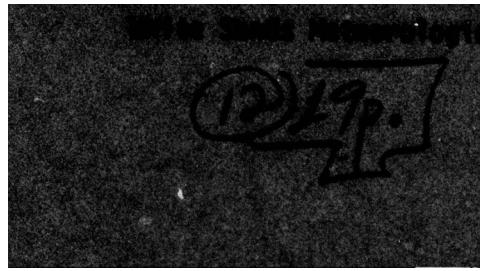
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19. KEY WORDS (Continue on reverse side if necessary and identify by block number)  1. Ballistics 2. Meteorology 3. Wind		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number)  Meteorological data gathered for the launching of 19305AG GSRS, Missiles No. 1026, 1036, 1034, Rounds No. V-40, V-41, V-42, are presented in tabular form.		

**SECURITY CLASSIFICATION OF THIS PAGE(When Data Entered)**

**SECURITY CLASSIFICATION OF THIS PAGE(When Data Entered)**

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## INTRODUCTION

19305AT GSRS, Missiles Number 1062, 1036, and 1034, Rounds Number V-40, V-41, and V-42, were launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1517, 1517:03, and 1517:06 MDT, 21 June 1979. The scheduled launch times were 1515, 1515:02, and 1515:05 MDT.

## DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

### 1. Observations

#### a. Surface

(1) Standard surface observations to include pressure, temperature ( $^{\circ}\text{C}$ ), relative humidity, dew point ( $^{\circ}\text{C}$ ), density ( $\text{gm}/\text{m}^3$ ), wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

#### b. Upper Air

(1) Low level wind data were obtained from RAPTS T-9 pibal observation at:

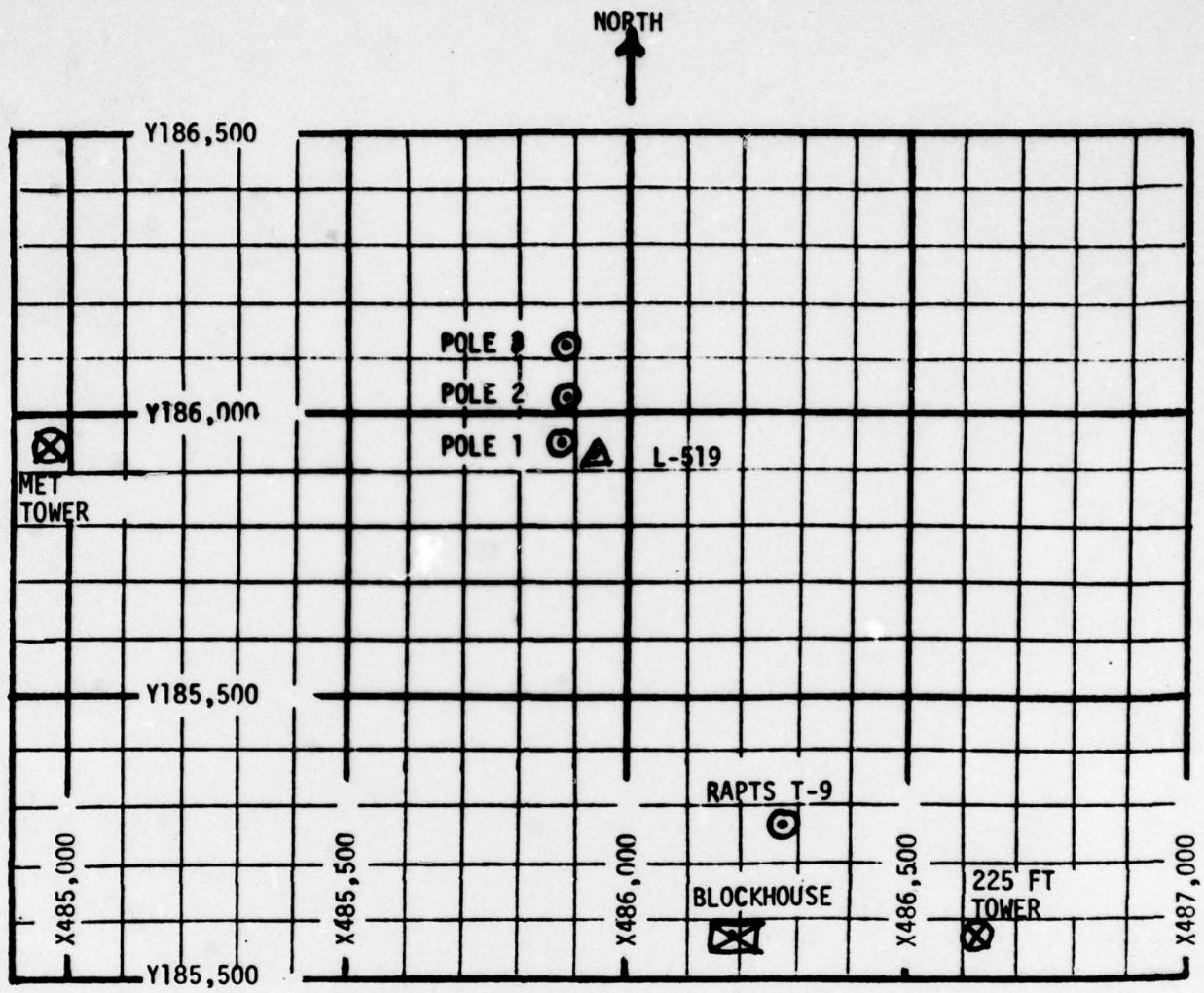
### SITE AND ALTITUDE

LC-33 1050 meters

(2) Air structure data (rawinsonde) were collected at the following Met Sites. Data were collected from surface to 94,500 feet in 500-feet increments.

### SITE AND TIME

SMR 1345 MST



1. MET TOWER - 4 Bendix Model T-120 Anemometers at 12 ft, 62 ft, 102 ft and 202 ft with E/A recorders.
2. POLE ANEMOMETER - Bendix Model T-120 with E/A recorders.
  - (a) Pole #1 - 38.7 ft
  - (b) Pole #2 - 53.0 ft
  - (c) Pole #3 - 83.6 ft
3. 225 FT WIND TOWER - 5 Bendix Model T-120 Anemometers at 35 ft, 88 ft, 128 ft, 168 ft and 200 ft with 5 X-Y visual indicators in Blockhouse.
4. RAPTS T-9 - Radar Automatic Pilot-Balloon Tracking System T-9 Radar

TABLE 1. SURFACE OBSERVATIONS TAKEN AT 1517 MDT,  
21 JUNE 1979 AT LC-33, 19305AT GSRS,  
MISSILES NO. 1062, 1036, AND 1034,  
ROUNDS NO. V-40, V-41 AND V-42

ELEVATION	3977.30	FT/MSL
PRESSURE	879.8	MBS
TEMPERATURE	35.2	°C
RELATIVE HUMIDITY	22	%
DEW POINT	10.2	°C
DENSITY	984	GM/M <sup>3</sup>
WIND SPEED	Calm	MPH
WIND DIRECTION	Calm	DEGREES
CLOUD COVER	5	Cu
CLOUD COVER	2	Ci

TABLE 2. LC-33 FIXED POLE ANEMOMETER-MEASURED WINDS

POLE #1			POLE #2			POLE #3		
T-TIME SEC	DIR DEG	SPEED MPH	T-TIME SEC	DIR DEG	SPEED MPH	T-TIME SEC	DIR DEG	SPEED MPH
-30	M	10	-30	168	03	-30	172	13
-20	M	09	-20	169	07	-20	172	12
-10	M	08	-10	161	07	-10	180	13
0.0	M	10	0.0	160	08	0.0	171	12
+10	M	08	+10	155	06	+10	178	12

Type 19305AT GSRS, Missile No. 1062, 1036, 1034, Round No. V-40, V-41 V-42, launched from LC-33 on 21 June 1979 at 1517, 1517:03, 1517:06 MDT.

POLE #1 = X485,874.29      Y185,958.90      H4018.74      38.7 ft. AGL

POLE #2 = X485,874.93      Y186,012.00      H4033.57      53.0 ft. AGL

POLE #3 = X485,877.29      Y186,116.06      H4063.92      83.6 ft. AGL

NOTE: Wind directions are referenced to the firing azimuth \_\_\_\_\_ or true north true north.

TABLE 3. LC-33 METEOROLOGICAL TOWER ANEMOMETER-MEASURED WINDS (202 FT. TOWER)

LEVEL #1 12 ft.			LEVEL #2 62 ft.		
T-TIME SEC	DIR DEG	SPEED MPH	T-TIME SEC	DIR DEG	SPEED MPH
-30	151	15	-30	165	18
-20	171	11	-20	146	15
-10	151	10	-10	162	11
0.0	150	13	0.0	160	14
+10	153	11	+10	160	13
LEVEL #3 102 ft.			LEVEL #4 202 ft.		
T-TIME SEC	DIR DEG	SPEED MPH	T-TIME SEC	DIR DEG	SPEED MPH
-30	171	14	-30	168	15
-20	168	14	-20	170	13
-10	178	12	-10	174	13
0.0	176	12	0.0	170	10
+10	170	10	+10	175	12

WTSM Coordinates: X484,982.64 Y185,957.73 H3983.00 (base)

Type 19305AT GSRS, Missile No. 1062, 1036, 1034, Round No. V-40, V-41, V-42, Launched from LC-33 on 21 June 1979 at 1517, 1517:03, 1517:06 MDT.

NOTE: Wind directions are referenced to the firing azimuth \_\_\_\_\_ or true north true north.

TABLE 4. PILOT-BALLOON-MEASURED WIND DATA (30-METER INCREMENTS)

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED MPH
SFC	000	00
30	045	3.0
60	090	5.5
90	135	10.5
120	179	10.5
150	166	10.5
180	153	10.5
210	140	10.5
240	126	10.5
270	138	10.5
300	149	10.5
330	161	10.5
360	172	10.5

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED MPH
390	171	10.5
420	169	10.5
450	167	10.5
480	165	10.0
510	178	9.5
540	190	9.0
570	203	8.5
600	215	7.5
630	216	8.0
660	216	8.0
690	217	8.0
720	217	8.0
750	212	9.5

Release Point Coordinates (WSTM): X486,037.24 Y486,037.24 H3977.30

Released from LC-33 on 21 June 1979 at 1517 MDT.

Type 19305AT GSRS, Missile No. 1062, 1036, 1034, Round No. V-40, V-41, V-42, launched from LC-33 on 21 June 1979 at 1517, 1517:03, 1517:06 MDT.

NOTE: Wind directions are referenced to the firing azimuth or true north true north.

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED MPH
780	206	11.0
810	201	12.5
840	195	14.0
870	196	14.0
900	197	14.0
930	198	14.0
960	198	13.5
990	199	14.0
1020	199	14.5
1050	199	14.5
1080		
1110		
1140		
1170		
1200		
1230		
1260		
1290		
1320		
1350		
1380		
1410		

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED MPH
1440		
1470		
1500		
1530		
1560		
1590		
1620		
1650		
1680		
1710		
1740		
1770		
1800		
1830		
1860		
1890		
1920		
1950		
1980		
2010		
2040		
2070		

STATION ALTITUDE 3997.30 FEET NSL  
 21 JUN 79 1345 HRS MST  
 ASCENSION NO. 199

SIGNIFICANT LEVEL DATA  
 172000Z0199  
 S M R

GEOGRAPHIC COORDINATES  
 32°48'03" LAT DEG  
 106°42'30" LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEWPONT DEGREES CENTIGRADE	REL.HUM. PERCENT
879.7	3997.3	36.4	21.0
872.6	4238.4	32.6	25.0
850.0	5012.8	31.3	28.0
805.4	5552.2	27.1	32.2
783.6	7362.4	24.5	32.0
731.0	9363.3	19.1	36.0
700.0	10578.7	15.2	41.0
651.8	12549.0	10.2	51.0
614.2	14160.9	5.1	62.0
605.4	14547.6	3.8	36.0
561.6	16535.7	-1.2	45.0
553.2	16930.5	-2.0	59.0
536.6	17725.9	-3.2	52.0
512.4	18921.2	-5.2	63.0
500.0	19551.1	-7.0	-17.4
488.6	20131.0	-8.3	-27.7
459.0	21729.4	-10.7	-36.2
400.0	25157.7	-18.6	-35.9
377.2	26586.7	-22.0	-36.6
371.0	26986.4	-23.5	-32.6
364.6	27405.3	-23.5	-31.6
356.6	<7604.0	-25.7	-35.7
352.6	28210.2	-24.1	-40.1
300.0	32023.3	-32.7	-46.6
250.0	36155.1	-43.4	18.0
200.0	40979.6	-55.1	47.0
177.8	43420.5	-61.4	18.0
166.4	44769.2	-63.3	20.0
150.0	46266.9	-64.3	21.0
124.8	50530.3	-43.4	42.0
100.0	54867.6	-55.1	32.0
90.6	56792.7	-71.5	21.0
70.0	61941.0	-62.2	21.0
65.0	63453.9	-62.0	21.0
50.0	63582.6	-56.6	21.0
35.8	75907.7	-55.3	21.0
30.0	79672.6	-51.2	21.0
26.0	81164.3	-48.8	21.0
20.0	83510.7	-47.0	21.0
15.0	94667.1	-43.7	21.0

STATION ALTITUDE 5970 FEET MSL  
 21 JUNE 79 1345 HRS MST  
 ASCENSION NO. 199

UPPER AIR DATA  
 1720060199  
 S M R

GEODETIC COORDINATES  
 52°48'34" LAT DEG  
 106.42307 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES(TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
3997.3	879.7	36.4	10.6	21.0	984.6	667.3	180.0	9.9	1.000270
4000.0	879.6	36.4	10.6	21.0	984.6	667.3	179.9	9.9	1.000270
4500.0	964.9	32.2	10.2	26.0	981.5	662.6	169.2	10.8	1.000270
5000.0	852.4	31.5	15.5	25.5	957.4	681.7	160.4	12.0	1.000268
5500.0	830.0	30.0	10.2	29.2	955.2	680.2	160.7	9.4	1.000264
6000.0	821.8	28.7	9.6	30.5	943.3	678.7	180.2	3.7	1.000260
6500.0	807.9	27.3	9.1	31.3	931.5	677.2	184.7	7.5	1.000256
7000.0	794.0	25.8	7.6	32.0	920.6	675.2	173.2	9.1	1.000250
7500.0	780.4	24.2	6.6	32.2	910.0	673.3	171.6	5.7	1.000245
8000.0	766.8	22.8	5.8	33.2	898.5	671.8	176.7	4.4	1.000240
8500.0	753.5	21.5	5.1	34.3	887.1	670.1	197.6	2.4	1.000236
9000.0	740.4	20.1	4.3	35.3	875.8	668.5	223.6	2.1	1.000232
9500.0	727.4	18.7	3.5	36.6	854.9	666.9	221.9	4.5	1.000228
10000.0	714.6	17.1	2.9	38.6	854.9	665.0	215.3	5.9	1.000224
10500.0	702.0	15.5	2.2	40.7	844.1	663.1	204.9	5.7	1.000221
11000.0	689.4	14.1	1.6	43.1	832.8	661.6	195.2	6.1	1.000218
11500.0	677.0	12.9	1.4	45.7	821.5	660.1	192.7	7.4	1.000214
12000.0	664.9	11.6	1.0	48.2	810.4	658.6	198.3	8.3	1.000211
12500.0	653.0	10.3	.6	50.6	799.5	657.1	209.4	6.6	1.000208
13000.0	641.1	9.8	.0	54.1	789.3	655.0	221.0	4.0	1.000205
13500.0	629.3	7.2	-5.5	57.5	779.5	653.4	235.0	1.6	1.000202
14000.0	617.9	5.6	-1.3	60.9	759.2	651.5	267.0	.9	1.000198
14500.0	606.5	4.0	-8.6	39.2	760.9	649.2	280.0	2.6	1.000195
15000.0	595.1	2.7	-10.2	38.0	750.4	647.6	270.0	4.5	1.000181
15500.0	584.0	1.4	-10.6	40.3	739.7	646.1	263.2	6.7	1.000179
16000.0	573.1	.1	-11.0	42.6	729.2	644.0	265.8	6.9	1.000176
16500.0	562.4	-1.1	-11.5	44.8	716.9	643.1	262.4	7.6	1.000173
17000.0	551.7	-2.1	-9.2	58.4	707.6	642.1	254.1	8.5	1.000173
17500.0	541.3	-2.9	-10.3	54.0	696.3	641.1	240.6	9.5	1.000169
18000.0	531.0	-3.9	-11.7	54.5	685.7	639.8	235.5	9.8	1.000166
18500.0	520.8	-5.1	-11.9	59.1	675.7	638.3	230.5	9.8	1.000164
19000.0	510.4	-6.3	-12.7	60.5	665.7	636.9	222.6	9.4	1.000161
19500.0	501.0	-6.9	-16.9	44.6	654.8	636.0	211.9	9.4	1.000155
20000.0	491.3	-8.0	-24.3	24.4	645.1	624.0	200.7	9.8	1.000148
20500.0	481.8	-8.9	-29.3	18.8	634.7	623.5	192.6	10.1	1.000145
21000.0	472.4	-9.6	-29.1	18.5	624.1	632.6	186.5	10.5	1.000142
21500.0	463.2	-10.4	-30.0	18.1	613.7	631.7	182.5	10.9	1.000139
22000.0	454.0	-11.3	-30.8	18.2	603.9	630.5	166.1	11.2	1.000137
22500.0	445.0	-12.5	-31.6	18.4	594.4	614.1	192.7	11.7	1.000135
23000.0	436.2	-13.6	-32.4	18.7	585.3	627.7	203.0	13.2	1.000133

STATION ALTITUDE 3997.30 FEET MSL  
21 JUNE 79 1345 HRS MST  
ASCENSION NO. 199

UPPER AIR DATA  
1720060199  
S N R

GEOGRAPHIC COORDINATES  
32°48'34" LAT DEG  
106°42'30" LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
23500.0	427.9	-14.8	-33.2	576.2	620.3	211.2	14.5	1.000130
<4000.0	419.0	-15.0	-34.0	567.3	624.9	218.1	15.5	1.000128
<4500.0	410.7	-17.1	-34.8	556.6	623.5	222.1	14.3	1.000126
25000.0	402.5	-18.2	-35.5	550.0	622.4	220.2	12.3	1.000124
25500.0	394.4	-19.6	-36.6	541.7	620.5	231.9	9.9	1.000122
26000.0	386.4	-21.0	-37.6	533.9	618.7	243.5	8.4	1.000120
26500.0	378.5	-22.4	-38.6	525.7	617.0	260.2	8.6	1.000118
27000.0	370.6	-23.5	-39.7	517.2	615.7	272.4	12.4	1.000118
27500.0	363.2	-23.5	-32.5	506.7	515.6	270.3	16.8	1.000115
28000.0	355.7	-23.9	-37.6	497.0	615.1	270.6	21.3	1.000112
28500.0	348.3	-24.8	-40.8	488.4	614.4	274.6	22.6	1.000110
29000.0	341.0	-25.9	-41.9	480.3	612.7	272.2	23.6	1.000108
29500.0	333.8	-27.0	-43.1	472.4	611.3	268.7	24.5	1.000106
30000.0	326.9	-26.1	-44.2	464.7	609.8	268.0	26.1	1.000104
30500.0	320.4	-29.3	-45.3	457.0	608.4	267.4	27.8	1.000102
31000.0	313.3	-30.4	-46.5	449.5	607.0	266.1	29.5	1.000101
31500.0	306.7	-31.5	-47.6	442.2	605.6	267.5	31.4	1.000099
32000.0	300.3	-32.6	-48.8	434.9	604.2	265.8	33.5	1.000097
32500.0	293.8	-33.9	-50.9	427.8	602.9	265.0	35.4	1.000096
33000.0	287.4	-35.2	-53.2	420.7	600.9	265.6	36.9	1.000094
33500.0	281.1	-36.5	-55.7	413.8	599.3	266.1	38.0	1.000092
34000.0	275.0	-37.8	-58.4	407.4	597.6	266.6	38.5	1.000091
34500.0	269.0	-39.1	-61.5	407.2	596.0	265.7	38.8	1.000089
35000.0	263.1	-40.4	-65.1	393.8	594.3	263.7	39.1	1.000088
35500.0	257.4	-41.7	-70.1	387.4	592.7	261.9	39.1	1.000086
36000.0	251.7	-43.0	-80.1	381.0	591.0	260.1	39.3	1.000085
36500.0	246.1	-44.2	-94.4	374.5	569.4	260.1	40.9	1.000083
37000.0	240.4	-45.4	-7.2**	400.3	590.0	260.4	42.3	1.000082
37500.0	234.9	-46.7	-65.1	393.8	594.3	261.1	43.6	1.000080
38000.0	229.6	-47.9	-41.7	387.4	592.7	264.0	42.6	1.000079
38500.0	224.3	-49.1	-3.0	381.0	591.0	263.0	41.1	1.000078
39000.0	219.2	-50.3	-	374.5	569.4	273.4	40.4	1.000076
39500.0	214.2	-51.5	-	367.9	581.6	260.4	42.3	1.000075
40000.0	209.3	-52.7	-	361.4	580.3	261.1	41.5	1.000074
40500.0	204.5	-53.9	-	355.0	584.7	261.5	43.1	1.000072
41000.0	199.8	-55.2	-	348.8	583.2	263.0	44.4	1.000071
41500.0	195.0	-56.4	-	342.0	581.6	273.4	40.4	1.000070
42000.0	190.4	-57.7	-	336.6	580.0	279.2	40.3	1.000069
42500.0	185.9	-59.0	-	330.7	578.4	281.1	46.2	1.000069
43000.0	181.4	-60.3	-	325.0	576.6	281.5	46.7	1.000067
			-	319.3	575.2	281.0	47.0	1.000066

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3997.30 FEET MSL  
 21 JUNE 79 1345 HRS MST  
 ASCENSION NO. 149

UPPER AIR DATA  
 172000z 159  
 S W R

GEOGRAPHIC COORDINATES  
 32° 48.034 LAT DEG  
 106° 42.307 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES CENTIGRADE	AIR DEWPOINT PERCENT	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES TN KNOTS	INDEX OF REFRACTION
43500.0	177.1	-61.5			291.5	566.8	279.3	47.1
44000.0	172.8	-62.2			285.4	565.8	277.9	46.7
44500.0	168.6	-62.9			279.4	564.9	275.5	45.5
45000.0	164.4	-63.4			273.4	564.4	274.1	43.2
45500.0	160.5	-63.6			266.9	563.9	274.7	41.2
46000.0	156.6	-63.9			260.6	563.6	274.4	40.8
46500.0	152.7	-64.1			254.6	563.2	272.7	44.3
47000.0	149.9	-64.5			246.8	562.7	271.4	45.8
47500.0	145.3	-65.2			243.4	561.8	270.4	41.4
48000.0	141.7	-65.9			236.2	560.8	269.3	37.0
48500.0	136.2	-66.7			233.1	559.6	269.0	29.7
49000.0	134.8	-67.4			226.2	558.6	270.7	21.9
49500.0	131.4	-68.1			223.3	557.8	269.0	17.3
50000.0	126.2	-68.8			216.5	556.9	263.2	16.2
50500.0	125.0	-69.6			213.9	555.9	256.1	15.3
51000.0	121.8	-69.8			208.7	555.5	245.6	15.0
51500.0	116.8	-70.0			203.7	555.2	235.6	15.7
52000.0	115.8	-70.2			198.8	554.9	239.2	16.6
52500.0	112.9	-70.5			194.0	554.6	244.5	18.3
53000.0	110.0	-70.7			189.3	554.3	249.0	19.0
53500.0	107.2	-70.9			184.7	554.0	254.4	15.7
54000.0	104.5	-71.1			180.2	553.7	261.4	13.4
54500.0	101.9	-71.3			175.9	553.4	258.0	9.3
55000.0	99.3	-71.5			171.6	553.2	250.5	5.3
55500.0	96.8	-71.4			167.2	552.9	236.9	2.6
56000.0	94.4	-71.4			162.9	552.4	188.4	1.0
56500.0	92.0	-71.3			158.8	552.4	109.8	1.6
57000.0	89.7	-70.9			154.5	554.0	104.2	1.1
57500.0	87.4	-70.0			150.0	555.2	89.1	.6
58000.0	85.3	-69.2			145.6	556.4	226.7	.5
58500.0	83.2	-68.3			141.4	567.9	237.5	1.8
59000.0	81.1	-67.4			137.3	558.8	233.2	2.6
59500.0	79.1	-66.5			133.4	560.0	181.9	1.9
60000.0	77.2	-65.6			129.5	561.2	137.7	2.9
60500.0	75.2	-64.7			125.8	562.4	121.2	4.7
61000.0	73.4	-63.9			122.1	563.6	114.0	6.7
61500.0	71.6	-63.0			118.8	564.6	111.0	8.0
62000.0	69.8	-62.2			115.3	565.8	112.3	7.1
62500.0	66.1	-62.1			112.4	565.9	113.7	6.3
63000.0	66.5	-62.1			109.7	566.0	110.1	5.8

STATION ALTITUDE 3997.30 FEET MSL  
21 JUNE 79 1345 HRS MST  
ASCENSION NO. 199

UPPER AIR DATA  
1720060199  
S M R

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES CENTIGRADE	AIR DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (11)	SPEED KNOTS	INDEX OF REFRACTION
63500.0	64.9	-62.0			107.0	560.2	103.3	5.6	1.000024
64000.0	65.3	-61.5			104.2	566.8	96.1	5.5	1.000023
64500.0	61.8	-61.0			101.5	567.5	94.6	6.9	1.000023
65000.0	56.5	-60.5			100.0	566.2	93.7	6.4	1.000022
65500.0	58.9	-60.0			96.2	568.6	91.8	10.3	1.000021
66000.0	57.5	-59.5			93.7	569.3	88.8	13.2	1.000021
66500.0	56.1	-59.0			91.2	570.1	86.8	16.1	1.000020
67000.0	54.8	-58.5			86.9	570.6	85.7	17.4	1.000020
67500.0	53.5	-58.0			86.5	571.5	84.8	17.3	1.000019
68000.0	52.2	-57.5			84.3	572.1	83.9	17.3	1.000019
68500.0	50.9	-57.0			82.1	572.8	83.5	17.0	1.000018
69000.0	49.7	-56.6			80.0	573.3	83.4	16.7	1.000018
69500.0	48.6	-52.5			78.1	573.4	82.3	16.4	1.000018
70000.0	47.4	-56.4			76.2	573.6	82.0	17.8	1.000017
70500.0	46.3	-56.3			74.4	573.7	81.9	19.4	1.000017
71000.0	45.2	-56.2			72.6	573.8	81.3	20.9	1.000016
71500.0	44.1	-56.1			70.9	573.9	80.6	21.9	1.000016
72000.0	43.1	-56.0			69.2	574.1	80.4	22.6	1.000015
72500.0	42.1	-55.9			67.5	574.2	80.0	23.6	1.000015
73000.0	41.1	-55.8			65.9	574.3	79.6	24.1	1.000015
73500.0	40.1	-55.7			64.3	574.4	79.7	24.6	1.000014
74000.0	39.2	-55.7			62.8	574.5	79.3	24.5	1.000014
74500.0	38.3	-55.6			61.3	574.7	78.7	23.8	1.000014
75000.0	37.4	-55.5			59.6	574.8	78.0	23.0	1.000013
75500.0	36.5	-55.4			56.4	574.9	78.1	24.2	1.000013
76000.0	35.6	-55.2			57.0	575.1	78.4	26.1	1.000013
76500.0	34.8	-54.7			55.5	575.3	78.0	27.9	1.000012
77000.0	34.0	-54.1			54.1	575.6	62.1	29.0	1.000012
77500.0	33.2	-53.6			52.7	577.3	85.6	30.2	1.000012
78000.0	32.5	-53.0			51.4	578.0	68.9	31.4	1.000011
78500.0	31.7	-52.5			50.0	579.7	92.1	30.6	1.000011
79000.0	31.0	-51.9			48.6	579.4	95.5	29.9	1.000011
79500.0	30.2	-51.4			47.5	580.1	98.6	29.3	1.000011
80000.0	29.5	-50.7			46.3	581.1	97.4	29.7	1.000010
80500.0	28.9	-49.9			45.0	582.1	96.1	30.2	1.000010
81000.0	28.2	-49.1			43.9	583.2	94.6	30.6	1.000010
81500.0	27.6	-48.7			42.6	583.6	93.4	31.6	1.000010
82000.0	26.9	-46.6			41.6	583.6	96.1	32.7	1.000009
82500.0	26.1	-44.5			40.3	582.9	90.7	33.7	1.000009
83000.0	25.7	-43.4			39.9	584.1	93.5	34.3	1.000009

STATION ALTITUDE 3997.30 FEET MSL  
 21 JUNE 79 1345 HRS MST  
 ASCENSION NO. 199

UPPER AIR DATA  
 1720060159  
 S M R

GEODETIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION, DEGREES(TR.)	SPEED KNOTS	INDEX OF REFRACTION
6350.0	25.2	-48.2	39.0	584.3	100.4	34.9	1.000009	
6400.0	24.6	-48.1	38.4	584.4	102.2	35.4	1.000008	
6450.0	24.0	-48.0	37.2	584.6	104.1	34.9	1.000008	
3500.0	23.5	-47.9	36.5	584.7	106.1	34.0	1.000008	
8350.0	23.0	-47.7	35.5	584.9	108.2	33.2	1.000008	
8000.0	22.4	-47.6	34.7	585.1	108.4	31.4	1.000008	
6650.0	21.9	-47.5	33.9	585.2	107.5	29.3	1.000008	
6700.0	21.4	-47.4	33.1	585.4	106.5	27.1	1.000007	
6750.0	20.9	-47.2	32.3	585.5	102.2	25.3	1.000007	
6800.0	20.5	-47.1	31.6	585.7	94.9	24.2	1.000007	
6850.0	20.0	-47.0	30.9	585.9	87.1	23.5	1.000007	
6900.0	19.6	-46.7	30.4	586.2	80.2	23.0	1.000007	
6950.0	19.1	-46.5	29.4	586.5	75.6	22.4	1.000007	
7000.0	18.7	-46.2	28.7	586.9	70.7	21.9	1.000006	
7050.0	18.3	-46.0	28.0	587.2	65.6	21.5	1.000006	
7100.0	17.9	-45.7	27.4	587.5	63.1	21.8	1.000006	
7150.0	17.5	-45.4	26.7	587.9	61.3	22.3	1.000006	
7200.0	17.1	-45.2	26.1	588.4	59.0	22.8	1.000006	
7250.0	16.7	-44.9	25.5	588.5	58.5	21.0	1.000006	
7300.0	16.3	-44.7	24.9	588.9	56.9	1.000006		
7350.0	16.0	-44.4	24.3	589.2	55.9	1.000005		
7400.0	15.6	-44.2	23.7	589.5	53.7	1.000005		
7450.0	15.3	-43.9	23.2	589.9	50.7	1.000005		

STATION ALTITUDE 3997.30 FEET MSL  
21 JUNE 79 1345 HRS MST  
ASCENSION NO. 199

MRN SIGNIFICANT LEVEL DATA  
172006145  
S M R

GEODETIC COORDINATES  
32°48.034 LAT DEG  
106°42.307 LON DEG

GEOPOTENTIAL ALTITUDE DECAMETERS	DIRECTION DEG (TN)	WIND DATA		E-H MPS	DEW PT DEG DEG C	TEMPERATURE AIR DEG C	PRESSURE MILLIBARS
		SPEED MPS	N-S MPS				
9999.**	9999.**	-9999.**	-9999.**	99	99	-43.7	1.500+1
2677.	87.	12.	-1.	-12.	99	-47.0	2.000+1
2085.	95.	16.	1.	-16.	99	-48.8	2.800+1
2463.	95.	15.	2.	-15.	99	-51.2	3.000+1
2418.	95.	15.	-2.	-15.	99	-55.3	3.580+1
2304.	78.	13.	-3.	-13.	99	-56.6	5.000+1
2092.	63.	9.	-1.	-5.	99	-62.0	6.500+1
1927.	104.	3.	1.	-3.	99	-62.2	7.000+1
1861.	112.	4.	1.	-5.	99	-71.3	9.060+1
1725.	107.	1.	0.	-1.	99	-71.5	1.0000+2
1067.	253.	3.	1.	0.	99		

\*\* WIND DATA NOT COMPUTED DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

STATION ALTITUDE 3997.30 FEET MSL  
 21 JUNE 79 1345 HRS MST  
 ASCENSION NO. 149

MANDATORY LEVELS  
 172006Z 19  
 S M R

GEODETIC COORDINATES  
 32°48'34" LAT DEG  
 106°42'30" LON DEG

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE DEGREES CENTIGRADE	REL.HUM. PERCENT	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5009.	31.3	10.6	25.	160.3
800.0	6779.	26.5	8.4	32.	177.9
750.0	8628.	21.1	4.9	35.	207.1
700.0	12525.	15.2	2.1	41.	202.5
650.0	12611.	10.0	*4	52.	212.2
600.0	14769.	3.2	-10.0	37.	276.1
550.0	17050.	-2.2	-9.4	58.	251.9
500.0	19523.	-7.0	-17.4	43.	210.9
450.0	22195.	-11.8	-31.1	18.	168.3
400.0	25115.	-18.6	-35.9	20.	227.6
350.0	28335.	-24.5	-40.5	21.	275.3
300.0	31959.	-32.7	-48.6	19.	265.8
250.0	36078.	-43.4			33.5
200.0	40879.	-55.1			260.1
175.0	43632.	-61.9			281.1
150.0	46739.	-64.3			44.3
125.0	50352.	-69.6			278.9
100.0	54697.	-71.5			47.1
80.0	59051.	-66.9			271.7
70.0	61727.	-62.2			40.8
60.0	64861.	-60.4			250.7
50.0	66622.	-76.6			15.3
40.0	73275.	-55.7			253.9
30.0	79330.	-51.2			6.6
25.0	83256.	-48.2			215.5
20.0	88093.	-47.0			2.1
15.0	94391.	-43.7			112.0

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3997.30 FEET MSL  
 21 JUNE 79 1345 HRS MST  
 ASCENSION NO. 199

MRN MANDATORY LEVELS  
 1720060199  
 S M R

GEOGRAPHIC COORDINATES  
 32°48'034 LAT DEG  
 106°42'307 LON DEG

GEOPOTENTIAL ALTITUDE DECADECIMETERS	DIRECTION DEG (T)	SPEED MPS	WIND DATA		E-W MPS	TEMPERATURE DEG C	DEW PT DEF DEG C	PRESSURE MILLIBARS
			N-S MPS	E-W MPS				
2377.	9999.**	9999.**	-9999.**	-9999.**	99	-43.7	1.500+1	
2685.	68.	12.	-1.	-12.	99	-47.0	2.000+1	
2538.	101.	18.	3.	-18.	99	-48.2	2.500+1	
2416.	198.	15.	2.	-15.	49	-51.2	3.000+1	
2233.	80.	13.	-2.	-12.	99	-55.7	4.000+1	
2992.	63.	9.	-1.	-9.	99	-56.6	5.000+1	
1977.	94.	4.	0.	-4.	99	-60.4	6.000+1	
1881.	112.	4.	1.	-15.	99	-62.2	7.000+1	
1690.	215.	1.	1.	1.	99	-66.9	8.000+1	
1067.	254.	3.	1.	3.	99	-71.5	1.000+2	
1235.	257.	6.	2.	6.	99	-69.6	1.250+2	
1425.	272.	24.	-1.	24.	99	-64.3	1.500+2	
1330.	279.	24.	-4.	24.	99	-61.9	1.750+2	
1240.	261.	23.	-4.	22.	99	-55.1	2.000+2	
1100.	260.	20.	4.	20.	99	-43.4	2.500+2	
974.	266.	17.	1.	17.	19	-32.7	3.000+2	
d64.	275.	14.	-1.	14.	16	-24.5	3.500+2	
766.	226.	6.	4.	4.	17	-18.6	4.000+2	
976.	168.	6.	1.	19	19	-11.6	4.500+2	
595.	211.	5.	4.	2.	10	-7.0	5.000+2	
520.	252.	4.	1.	4.	07	-2.2	5.500+2	
153.	276.	2.	0.	4.	12	3.2	6.000+2	
364.	212.	3.	2.	2.	10	10.0	6.500+2	
324.	203.	3.	3.	1.	13	15.2	7.000+2	
263.	207.	1.	1.	0.	16	21.1	7.500+2	
207.	178.	5.	-0.	18	26.5	8.000+2		
153.	160.	6.	-2.	21	31.3	8.500+2		

\*\* WIND DATA NOT COMPUTED DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.